

An emission control device and method are provided for treating exhaust to reduce pollutants contained therein. The device includes a first chamber through which the exhaust passes. First and second metal grids are disposed within the first chamber at a predetermined distance from each other. Voltage is supplied to the insulated first grid by an electrical induction coil at a predetermined frequency depending upon the application. Electrical charges are generated between the first and second grids which electrically ionizes the exhaust stream. The induction coil includes an insulated center wire, a plurality of bare wires juxtaposed in a curvilinear row and coiled about the center wire, and a plurality of insulated wires juxtaposed in a second row and coiled around the bare wires to provide a highly efficient conductor which also dampens any magnetic field created by the conductor and, thereby, abates creation of random cycling frequencies in adjacent wiring.

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